

Remarks/Arguments

Claims 1-31, 33-55 and 57-80 are in the application. Reexamination and reconsideration of the present application are respectfully requested.

The Applicants acknowledge with thanks the Examiner's finding that claims 73, 74 and 80 are allowed.

Claims 1-29, 31, 33-51, 54, 55, 57-59, 62-64, 69-72, 75, 78 and 79 have been rejected under 35 U.S.C. §103(a) as unpatentable over TeGrotenhuis(WO 03/078052 A1), Tonkovich '408 (U.S. 7,470,408) and Brophy (U.S. 7,118,920). Claims 52 and 53 have been rejected under 35 U.S.C. §103(a) as unpatentable over TeGrotenhuis, in view of Tonkovich '408, Brophy and Reyes (U.S. Patent 6,726,850). Claims 60, 61 and 76 have been rejected under 35 U.S.C. §103(a) as unpatentable over TeGrotenhuis, in view of Tonkovich '408, Brophy and Ghosh (U.S. 5,961,932). Claims 30, 65-68 and 77 have been rejected under 35 U.S.C. §103(a) as unpatentable over TeGrotenhuis in view of Tonkovich '408, Brophy and Tonkovich '647 (U.S. 7,029,647). These rejections are respectfully traversed.

Tonkovich '408 and Tonkovich '647 are not available as prior art against the present application under 35 U.S.C. §103(c). Each of these references is prior art against the present application under 35 U.S.C. §102(e)(2) only. Each of these references and the invention disclosed in the present application were commonly assigned, or subject to an obligation of assignment to a common assignee, at the time the invention disclosed in the present application was made. Withdrawal of the rejections based on these references is warranted and is respectfully requested.

Tonkovich '408, which issued December 30, 2008, was based on an application filed May 17, 2004 (but as noted by the Examiner claimed priority to a provisional application filed on December 18, 2003). Tonkovich '647, which issued April 18, 2006, was based on an application filed January 27, 2004. Both Tonkovich '408 and Tonkovich '647 have effective filing dates that are prior to the filing date of February 11, 2004 for the present application, but issue dates that are subsequent to the filing date of the present application. As a result both Tonkovich '408 and Tonkovich '647 are prior art against the subject application under 35 U.S.C. §102(e) only.

The invention disclosed in the present application, and Tonkovich '408 and Tonkovich '647, were commonly owned by Velocys, Inc., or subject to an obligation of assignment to Velocys, Inc., at the time the invention disclosed in the present application was made. The assignment for the present application to Velocys, Inc. was recorded on June 14, 2004 at reel/frame 015461/0406. The assignment for Tonkovich '408 to Velocys, Inc. was recorded September 27, 2004 at reel/frame 015827/0672. The assignment for Tonkovich '647 to Velocys, Inc. was recorded on June 17, 2004 at reel/frame 014741/0531.

Since both Tonkovich '408 and Tonkovich '647 are prior art against the present application under 35 U.S.C. §102(e) only, and since both of these references and the invention disclosed in the present application were commonly owned, or subject to an obligation of assignment to a common assignee, at the time the present invention was made, under the provisions of 35 U.S.C. §103(c), neither of these references is citable against the present application under 35 U.S.C. §103(a). Accordingly, withdrawal of the rejection of claims 1-31, 33-55, 57-72 and 75-79 under 35 U.S.C. §103(a) based on the teachings in Tonkovich '408 is warranted and is respectfully requested. Similarly, withdrawal of the rejection of claims 30, 65-68 and 77 under 35 U.S.C. §103(a) based on the teachings in Tonkovich '408 and Tonkovich '647 is warranted and is respectfully requested.

In each rejection, TeGrotenhuis was cited as the primary reference and Tonkovich '408 was cited as a secondary reference. The Examiner admitted that "TeGrotenhuis fail to teach that an intermediate product composition is formed in a first reaction zone with a first catalyst and a final product is formed in a second reaction zone and that the reaction zones are separated by a non-reactive zone, the first reaction zone and the another reaction zone being in the same process microchannel." To make up for this deficiency, the Examiner cited Tonkovich '408. The Examiner stated:

Regarding claims 1, 15, 16, Tonkovich, however, teaches *in situ* mixing in microchannels (page 1) wherein difference catalysts can be disposed along a microchannel (that form different reaction stages) with non-reactive zones between the different reaction zones for the purpose of providing a reaction channel that can

produce a product in a two-step process via an intermediate product (page 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide different catalyst disposed along a microchannel (that form different reaction stages) with non-reactive zones between the different reaction zones in TeGrotenhuis in order to provide a reaction channel that can produce a product in a two-step process via an intermediate product (page 5) as taught by Tonkovich.

Regarding claims 1, 3, 13, 14; in the alternative, Tonkovich teaches *in situ* mixing in microchannels (page 1) similar catalysts can be disposed along a microchannel (that form different reaction stages) with a non-reactive zones between the different reaction zones for the purpose of reducing the amount of side reactions (page 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide similar catalysts disposed along a microchannel (that form different reaction stages) with non-reactive zones between the different reaction zones in TeGrotenhuis in order to provide a reaction channel that has a reduced amount of side reactions (page 5) as taught by Tonkovich.

However, as indicated above, Tonkovich '408 is not citable as prior art for this rejection. Also, the Examiner has not alleged that the deficiencies in Tonkovich are made up for by the teachings in any of the remaining references, namely, Brophy, Reyes, Ghosh, or Tonkovich '647 (which is also not citable). Thus, the Examiner has failed to establish a *prima facie* case of obviousness against the Applicants' independent claim 1. The Examiner has also not established a *prima facie* case of obviousness against independent claims 69, 78 and 79. Claims 2-31, 33-55, 57-68 and 75-77 depend from claim 1 and claims 70-72 depend from claim 69. The Examiner has not established a *prima facie* case of obviousness against any of these dependent claims.

Withdrawal of the rejection of claims 1-31, 33-55, 57-72 and 75-79 is warranted and is respectfully requested.

Applicants respectfully submit that the application is in condition for allowance. A Notice of Allowance is respectfully requested. In the event the Examiner would like to discuss any matters concerning this application, he is invited to contact the undersigned attorney by telephone. Any fees required for the filing of this paper may be charged to Deposit Account Number 18-0988.

Respectfully submitted,

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